CHAL 0296
Copy 3 of 6

18 August 1958

MEMORANDUM FOR: Director of Administration, DPS

25X1C8c SUBJECT: Preliminary Accident Report - [redacted]

25X1C8c 1. The following preliminary report relative to the fatal aircraft accident involving [redacted] in a USAF aircraft is forwarded for your information. Joint endeavors by the USAF Accident Investigation Board, ARDC and CADC to determine the cause of the accident are presently incomplete. Final reports will be placed at your disposal as soon as they are published.

2. General:

25X1C8c a. [redacted] was assigned to perform a routine high altitude navigation training flight in aircraft #380 on 8 July 1958. Duration of the flight was to be seven hours, traversing generally the Texas area. All preflight procedures adhered to standards outlined for this type flight; all equipment checked out successfully; and a routine take off was made from [redacted] Position 25X1A6a reports were made periodically throughout the flight, and the last of these reports was made nine minutes prior to the accident.

b. At the completion of six hours of flight and in the proximity 60 miles south of Amarillo, Texas, an eye witness has reported hearing an explosive noise overhead and observing an object hurtling from an aircraft. This object was later identified to be the pilot and pilot ejection system assembly. Aircraft impact with the ground was at some distance from the pilot. Impact force was sufficient to disintegrate the aircraft, but fire did not result. The compactness of the structural components indicated low forward momentum at time of crash.

3. Accident investigation:

a. Aircraft: Though the aircraft was demolished, the following items were observable.

(1) Landing gear in up position.
(2) Flaps in gust position.
(3) Trim power switch off.
(4) Nose trim in full down position.
(5) Moisture detected in oxygen system.

b. Pilot Ejection System

(1) Pilot ejected through canopy.
(2) Catapult ejection system fired successfully.
(3) Automatic lap belt failed to open due to improper alignment of mechanism resulting from catapult and wind blast forces.

c. Personal equipment

(1) Emergency oxygen system activated.
(2) Face plate closed and latched.
(3) Inhalation and exhalation valve functional.
(4) Suit capstans functional.
(5) Suit rip over right knee.
(6) Facts point to the proper operation of the pilot's personal equipment at time of ejection.
(7) Loose helmet tie down assembly during ejection.

d. Personal: It is the Board's assumption that ejection was accomplished at 30,000 feet. Prior to ejection, the pilot made the following radio transmission: "Mayday, Mayday, Mayday, aircraft descending out of control." Autopsy report is as follows:

(1) Pilot alive at time of ground impact.
(2) Superficial injury on right knee during ejection (possibly due to contact with canopy jettison handle).
(3) Possibility of hypoxia prior to ejection.
(4) Fractured larynx during ejection.
(5) Suspicion of improper body positioning for the ejection.
(6) The massive cranial fracture reported in the autopsy report was experienced during impact with the ground. This fracture is judged to be the primary cause of death.
(7) Positive lactic acid observed in post mortem examination is indicative of hypoxia.

4. General Assumptions: It is the belief of the Accident Investigation Board that the aircraft oxygen system may have contained amounts of moisture sufficient to freeze and cause interruption of oxygen flow while in the low temperature environment of high altitude. The disrupted oxygen flow could result in insidious hypoxia progressing to the extent of limiting the pilot's capability in proper aircraft manipulation and resulting in aircraft structural damage. It is also assumed that just prior to structural damage, the

pilot recognized his hypoxic condition and proceeded to activate the emergency oxygen supply. Upon being revitalized by proper oxygenation and subsequently observing structural damage incurred through exceeding the limiting mach, the pilot elected to eject. During the process of ejection under conditions of stress and residual hypoxia, the proper body position was overlooked, as well as the tightening of the helmet tie down buckle. Improper body positioning may have caused the right knee to contact the canopy release and, hence, the superficial trauma of that area. Windblast of the magnitude expected at the limiting mach may have carried the helmet tie down buckle to the larynx with sufficient force to cause fracture and incapacitation following the ejection. The ejection seat catapult force, combined with the twisting force of windblast, distorted the ejection seat automatic lap belt mechanism to render it unserviceable. The pilot, incapacitated and securely bound to the ejection seat, would then plummet to earth causing the fatal injuries.

5. Solutions to suspected cause of fatality:

a. Extensive aircraft oxygen system - research is being conducted to determine the freezing characteristic of the present system. In addition, efforts to redesign the oxygen system are under way. A new type dessicant cartridge of greater efficiency has been secured for all oxygen filter carts to assure dryness of oxygen introduced into the aircraft system. Aircraft oxygen systems have been purged to eliminate water content. More effective oxygen recharging procedures have been outlined and overall oxygen discipline regulations expanded.

b. Automatic lap belt - the aircraft manufacturer is designing major modifications to improve the ejection seat lap belt functional ability. All ejection seats are to be modified.

c. Helmet tie down assembly - a new type tie down assembly has been designed and is being distributed. This new assembly is lighter and is repositioned so as to eliminate the possibility of inflicting larynx injury during ejection.

d. Emergency Oxygen System - specifications outlining design for an independent emergency oxygen system have been drawn. This system will be incorporated in all our aircraft if proven successful by MAIC.

25X1C8c

[redacted]

SIGNED

25X1A9a

[redacted]

Colonel USAF
Director of Operations

RJT:bm
1 & 2 - Addressee
✓3 - Dep Dir, DPS
4 - Ops subj
5 - Ops chron
6 - CHAL chron